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Mary Paulette Kelly

*School of Business IT and Logistics, RMIT University, Marypaulette.Kelly@rmit.edu.au*

Joan Richardson

*School of Business IT and Logistics, RMIT University, Joan.Richardson@rmit.edu.au*

Brian Corbitt

*School of Business IT and Logistics, RMIT University, brian.corbitt@rmit.edu.au*

John Lenarcic

*School of Business IT and Logistics, RMIT University, John.Lenarcic@rmit.edu.au*

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## **The Impact of Context on the Adoption of Health Informatics in Australia**

**Mary Paulette Kelly, Joan Richardson, Brian Corbitt and John Lenarcic**

School of Business IT and Logistics  
RMIT University, Melbourne, Australia

Marypaulette.Kelly@rmit.edu.au

Joan.Richardson@rmit.edu.au

Brian.Corbitt@rmit.edu.au

John.Lenarcic@rmit.edu.au

### **Abstract**

*Australia's National Health and Hospital Reform Commissions e-health agenda has necessitated an improvement in our understanding of the factors impacting the intention to adopt integrated information systems. This imperative is echoed by OECD health ministers and forms the focus for the ministerial meeting schedule for October 2010, 'Health Priorities in the Aftermath of the Crisis'. This paper reviews the IS adoption literature to identify factors which influence the intention to use an integrated information system, and to share data. In particular this study incorporates input from medical professionals and others in the health sector in terms of describing their understanding of why integrated information systems are being presented as a solution to the problem of providing healthcare in the Australian healthcare setting. A qualitative analysis of the interviews highlights tensions in the healthcare sector which may be impacting intention to adopt e-health initiatives. These tensions may resonate with other countries attempting to reform healthcare using ICT's.*

**Keywords:** Australian health care, ICT Adoption, E-health

## **1 Introduction**

Structural changes in the Australian healthcare system are being framed by a centrally-driven set of performance measures which draw on metrics such as adverse events, waiting times for treatment and waiting lists for hospital admission. A stated aim of reform plans involves centralizing resources and defining core competencies to deliver a standardized

quality and reliable service (National Health and Hospital Reform Commission (NHHRC), 2009). An essential element will include information flows controlled by systematic and centralized data gathering processes. Specifically, the NHHRC (2009) has recommended to government that it exploit the potential of Information Communications Technology (ICT) to transform organizational practice in the Australian healthcare setting. The intention is to improve the healthcare system through the smart use of data. Recommendations include a transforming e-health agenda in order to improve quality, safety and efficiency of health care (Health and Hospital Reform Commission, Executive Summary, 2009). This paper will outline preliminary findings from an ongoing qualitative investigation into the political conflicts that arise in the Australian healthcare sector which may be impacting on intentions to adopt e-health schemes.

## **2 ICT use in healthcare**

The specifics of the systems proposed are yet to be ironed out; however the need for linking hospital, medical and pharmaceutical data using a patient unique identifier has been recognized (NHHRC, 2009:134). Adoption of integrated information systems by the medical profession will be necessary to provide the accurate, current data necessary for publicly reported comparison performance statistics and to maintain electronic patient health records. Despite the successful diffusion of integrated information systems (IS) to service industries such as policing and finance, diffusion of IS in the health sector has been painfully slow. Over the past decade the Australian Commonwealth, State and Territory governments are estimated to have invested in excess of five billion dollars in e-health, yet “the primary information tools used to manage health care in this country still revolve around pen, paper and human memory.” (National e-health strategy, 2008:8). The vivid imagery depicted in this comment is of a sector ignorant of technology. However, this is not the case. McInnes, Saltman and Kid (2006) found 98% of GP’s in Australia dispense prescriptions electronically.

The adoption of integrated information systems for the exercise of management of healthcare practice delivery, the system type indicated in the NHHRC report, have been difficult to realize. The launch of the Medibank computer system in 1975 (the computer system which accompanied the introduction of a publicly funded universal health service) required the introduction of legislative and system changes to ensure it guaranteed the privacy of any information accumulated about individual doctors and the services they provide, confining the scope of the system to financial reimbursement (Australian Medical Association Annual Report, 1975:22, cited Scotton & Macdonald, 1993). More recent efforts to replace the Medicare card with an Access card led to a senate committee review to address concerns raised by the Australian Medical Association and the Australian Privacy Foundation, eventually leading to the abandonment of the Access card in 2007 (Robinson et al, 2008:143).

The ‘transforming e-health agenda’ specified by the NHHRC (2009) represents the latest attempt at introducing integrated information systems for the purpose of management in healthcare. The transformational aspect of e-health is its ability to provide knowledge of the delivery of medical care, knowledge which can create a force for change (Kemp, 2007:48). A sense of urgency is evident as the government attempts to capitalise on the considerable

investments in a national e-health system. The risk of not utilising ICT effectively to support health reform initiatives is significantly increased by spiraling healthcare costs – exacerbated by practice inefficiency, waste through duplication and poor processes (NHHRC, 2009:53).

The next section of the paper addresses the literature which examines technology adoption behaviour. This is followed by a discussion of the research method, data and results from interviews with healthcare professionals, analysis and conclusion.

### **3 Technology Adoption Behaviour in Health**

The most commonly employed mode of assessing IT usage is the Technology Acceptance Model (TAM) (Jeyaraj, Rottman, Lacity, 2006, Taylor and Todd, 1995). Yarbrough and Smith (2007) and Holden and Karsh (2010) provide comprehensive overviews of the studies in healthcare which have used TAM, and are continuing to use TAM. Included in these studies is the use of TAM when investigating systems (see Duyck et al, 2008, Hu, Chau, Liu, Sheng and Tam 1999). Besides TAM, TAM2 and Rogers' (1995) innovation diffusion theory have also supported the physician sample; however, with limitations; TAM2 did not indicate support for the perceived ease of use component of the model (Chismar, Wiley-Patton, 2002:663), while England and Stewart (2007) found that diffusion factors such as 'leader attitudes' and 'centralization' were affected by the various interest groups and the politics of fragmented professions (pg 79). When used in the context of predicting autonomous individual decisions to adopt, TAM, TAM2 and Rogers' (1995) innovation diffusion theory, use in the health setting has proved useful (Holden and Karsh (2010), Yarbrough and Smith (2007)). The applicability of these approaches in the system context suggested by the NHHRC in which the important outcomes of IS include providing comparative clinical performance information and patient treatment data, the main benefits of which do not accrue directly to the system user is not suggested in the above studies. Complicating the acceptance environment is the recommendation by the NHHRC (2009) that sharing of information should be mandatory.

Diffusion theory has been extended to adoption scenarios which are more complex than those of individuals making autonomous choices, yet success has been limited. Chau and Hu (2001) highlighted several plausible limitations of TAM and TPB in explaining or predicting technology acceptance by individual professionals, which can be summarized as the professions contradictory requirements to maintain the status quo with respect to work practices and harness technologies ability to enhance performance. Such requirements have led to calls for systems which allow physicians to enhance their performance while maintaining their existing clinical practices as a means of combating adoption failure (Hu, Chau, Liu, Sheng and Tam 1999, Yi, Jackson, Park, and Probst, 2006, Chau, Hu, 2001, Yusof, Stergioulas, Zugic, 2007). These studies highlight the difficulty in introducing information systems which are to be used by professionals seeking to maintain the status quo while being designed to meet the reform aims of exploiting the potential of ICT in transforming organization practice. In such a context the construct of perceived usefulness, that the system will enhance performance and be consistent with existing work practices, will be interpreted differently by different stakeholders.

Innovation adoption theories which view adoption as an outcome do not respond to the incompatibility of the key stakeholder's requirements or the seemingly contradictory requirements of the key users. Some researchers have chosen to ignore the messier aspects of stakeholder behaviour, 'we do not discuss .... dysfunctioning such as a physician refusing to seek information in the computer system' (Ash, Berg, Coiera, 2003:105), while others have sought explanation, Yarbrough and Smith (2007) note that cost and compensation structures might represent barriers to technology acceptance (pg 664), implying the importance of context in stakeholder relationships within the health setting. Ludwick and Doucette (2009) describe the implementation of health information systems in seven countries as involving significant cultural and organizational upheaval in which physician are unlikely to be cooperative to projects which reduce their revenue opportunities in a fee for service payment model (pg 28). In the Australian setting compensation structures shape the stakeholder relationship with the medical profession paid on a fee-for-service basis and a government assuming responsibility for funding a universally accessible public health service (Collyer and White, 2001, Considine and Lewis, 2003). . This is reiterated by Greenhalgh, Robert, MacFarlane, Bate and Kyriakidou (2004) who call for research which recognizes 'the reciprocal interaction between the program that is the explicit focus of research and the wider setting in which it takes place' (pg 615). Greenhalgh et al (2004) found that power relations were critical to successful implementation in complex healthcare organizations but were not examined in most empirical work in the adoption literature (pg 614). Menadue (2008) suggests the implementation of healthcare reform is 'a contest of power' (pg 384).

The focus of this paper is to improve our understanding of factors which influence the intention to share data via an integrated information system in the Australian healthcare setting. Recognizing the influence of context in healthcare IT adoption, the link between the informational context and attitude with sharing it is the area of interest.

Kolekofski and Heminger (2002) suggest that what the information represents in terms of power, the value it represents and who will benefit from sharing were all influences impacting the likelihood that information will be shared (Kolekofski et al, 2002:526). Their findings suggest that the role of the information collected and processed will influence the intention to share data via an integrated information system. The interaction between the system being implemented and the context of use was also explored by Markus (1983) who suggested that attitudes towards adoption will be positively influenced when it is believed the system will support a position of power. If it is likely to cause the loss of power, it will be resisted. Denis, Hebert, Langley, Lozeau, and Trottier (2002) also underlined the interests and power of the actors in an adopting system as affecting their interpretation of the validity of information from information systems, suggesting the neutrality of IS may not be accepted in all situations. In a similar vein, Lapointe and Rivard (2006) identified instances where the significance of the system became the barrier to information sharing and technology acceptance suggesting the real targets of resistance are most likely to be organization of work and political issues between stakeholders (Lapointe and Rivard, 2006:1577). Stoop, Bal and Berg (2007) focused on the context and the interests of the stakeholders and found that it was not the quality of the IT system that guaranteed success but more important was the congruence in stakeholder interests and the 'moment in time' in which the interests converged (pg S234). The fragility of the interest alignment led to

continuously changing incentives and constraints which both facilitated and threatened the success of the healthcare IT implementation being investigated (Stoop, Bal and Berg, 2007:S234). Common amongst all of the studies is the indication that an accord between key stakeholders influences adoption behavior; its relevance to current disputes within the healthcare sector should not be ignored.

### **3.2 Political context in the stakeholder relationship**

The imperative of governments to control, and in some cases reduce, costs of healthcare ‘by regulating the professional activities of, or encouraging restraint by, the providers of healthcare services’ (Larkin, 1989:68), is well represented in the health policy literature (see for example Scotton, 1974, Larkin 1989, Penington 1984). That this causes tension is also well understood. Medical resistance to state intervention has been largely held responsible for this tension, and has been used to explain resistance to e-health initiatives in the UK (Connell and Young 2007). The thrust of this argument is that the corporatist state and professions derive their economic and ideological bases from different sources, the corporatists seeking expansion of state resources and finances, the professions seeking a limit to this expansion (Dunleavy 1981, Perkin 1989). Such an argument would suggest that the two groups have little in common, yet the relationship between the medical profession and the state in Australia is one of mutual interdependence. Substantial regulation provides the medical profession with their monopoly position as the principle healthcare providers (Deighton-Smith, Harris, Pearson, 2001). In exchange for this monopoly the medical profession acts on the governments behalf as gatekeeper to health services via the referral process. Yet government’s role in driving reform remains contentious. Concentrating on the conflict between the major stakeholders caused by the funding models of the medicalised services, a common theme of recent analyses is the difficulty in effecting practice change in healthcare (see Collyer and White (2001), Germov (2003) and Considine and Lewis (2003)).

Doolin and Lowe (1999) investigated resistance to an information system from the perspective of the power relations of key stakeholders using a critical interpretivist approach. Locating the introduction of Casemix IS in the broader reforms taking place in New Zealand, Doolin and Lowe (1999) concentrated on how hospital management attempted to utilize the increased visibility and monitoring afforded by Casemix IS to influence clinical behaviour and manage practice. Perceiving the use of Casemix IS as subjecting clinicians to restrictive monitoring, surveillance and disciplinary activities, in an attempt to normalize medical practice, a Foucaudian (1977) conception of power was utilized to provide the contextual analysis. The clinical information which was once only interpreted by clinicians was now subject to interrogation, opening a new discursive space between clinicians and administrators. Doolin and Lowe (1999) found that while providing some controlling influence, it also produced forms of resistance. Their findings resonate in Australia where accusations of creative accounting in order to receive funding and avoid ‘performance watch’, through the creation of ‘virtual wards’ within Casemix IS, were raised against clinicians in a December 2008 parliamentary inquiry. A history of distrust in the use of IS exists.

The intention to deploy 'systems to provide comparative clinical performance data' (NHHRC, 2009: Executive Summary 8/9, Recommendation 120), suggests the use of e-health to subject clinicians to disciplinary activities by enhancing their 'calculability' through normalizing disciplinary practices of surveillance and comparative measures that reference the 'norm' (Foucault, 1977). Conceived in this way electronic health records seek to increase control of clinician behaviour. Information systems, which are frequently depicted as neutral impartial technology faithfully representing the efficiency of an organization, as functional systems intended to facilitate rational decision making, can be utilized to influence our understanding of the 'right' way to delivery health services. Foucault (1977, 1979, 1988) encourages a view of discourse as the medium through which power relations create speaking subjects. Authority to speak on the 'right' ways in which to practice healthcare delivery provides the profession with its power position. E-health could enable a transfer of power by allowing others to question the professions interpretation of 'right'. It is Bourdieu (1984) who provides an explanation for what is at stake and what strategies might be deployed. Bourdieu (1984) identifies maintaining the status quo as the impact of strategies to resist change in practice. What is at stake is control and change, control over the methods for sanctioning legitimate ways to think and talk about the problem of healthcare impact on the economic rewards and social status of the profession.

The literature supports a view of the importance of the political context in the stakeholder relationships as an influencer of attitudes which impact behavioral intent towards integrated information systems adoption in the healthcare setting. Placing the adoption of IS in the context of the political aspects of stakeholder relationships appears self-evident, yet the conceptual and empirical resources that can be drawn upon is not.

## **4 Methodology**

To determine the relevance of the findings from the literature review to the intentions of doctors in the Australian healthcare setting to share information via an integrated information system the process of beliefs elicitation will be used. The literature review suggests that the political context in healthcare is a significant influencer. Beliefs elicitation is a process that can be used to contextualize IS adoption in the Australian healthcare setting, when identifying the salient beliefs held by key stakeholders about the type and role of integrated information systems to be introduced in the healthcare setting. In this way the actual barriers and facilitators to IT use may be uncovered. The major advantages of eliciting beliefs from a sample of the population of interest are that there is a greater guarantee that the beliefs will be relevant to the population (Ajzen and Fishbein 1980) and that strategies to promote acceptance may be properly targeted. Based on a participant's response to open-ended questions, the beliefs that the participant has about certain behaviour can be uncovered (Holden and Karsh, 2010:169). These beliefs become the basis for choosing the most appropriate theoretical framework for future investigations.

Adhering to the fundamental principles of a critical interpretivist approach to IS research, qualitative research was completed. As the research was investigating the influence of political conflict on the adoption of e-health schemes in Australia a case study method was used. Yin (2002) defines a case study as an empirical inquiry that investigates a contemporary phenomenon within its real-life context, especially when the boundaries

between phenomenon and context are not clearly evident. Case study methodology is particularly well-suited to the field of ICT, where the focus is on organizational rather than technical issues (Benbasat et al, 2007).

Within the context interview research respondents were decision makers within healthcare organizations. The successful use of Rogers' (1995) innovation diffusion theory in healthcare suggested that a concentration on senior decision-making managers, who exert strong influence over change in their organizations, was considered particularly important. This also allowed for differences in perspective to come to the fore. This approach supposes that a very small population was significantly influencing the pattern of health IT adoption in Australia. Attempts to increase the size of the population was seen to weaken the validity of the research by introducing data from subjects not centrally involved in the innovation process being analyzed. Despite its limitations it was decided to accept the challenges of working with such a small population.

The sample comprised eight respondents from eight different healthcare organizations ranging from public hospital clinical managers, hospital Chief Financial Officer (CFO) to private health informatics solutions provider Chief Executive Officer (CEO) and government executive officer. Initially respondents were approached at conferences and interviews were arranged. Efforts were made to maximize response rates through contact with professional associations as referees. In some instances this led to introductions which facilitated the organization of further interviews. Some participants were interviewed at their place of work, when this was inconvenient a neutral location was chosen. Assurances of confidentiality were given. Interviews that lasted between sixty and one hundred and twenty minutes were recorded with permission of the participants.

Semi structured interviews were conducted with questions identified to determine the respondents understanding of the role IS could play in healthcare, their understanding of the IS solutions being suggested for healthcare and the purpose of these systems. Questions ranged from 'What does the Australian healthcare system look like?', 'What should it look like?' to 'Who is driving the introduction of ICT in the health sector 'Why?' The interviewees were directed to think of the national strategy to facilitate adoption of electronic health information products and services first launched in 1999 under the title 'Health Online'. Renamed HealthConnect in 2001, the program aimed to provide a platform for 'consumer centric' health care (HealthConnect Implementation Strategy, 2005). With respect to integrated systems, the interviewees were directed to think of HealthConnect related state initiatives to replace ICT systems throughout the Public Healthcare Sector. The basic tenets of HealthConnect are continued in the NHHRC (2009) recommendations.

The cornerstone of HealthConnect was an Electronic Health Record (HealthConnect Business Architecture, 2003). An Electronic Health Record (EHR) is a longitudinal or episodal record that tracks all medical interactions for and about individuals and the population (Gunter, 2005). Currently health information pertaining to an individual is located in various standalone repositories, some electronic and some hardcopy.



To take a Foucaudian analytical approach, a context sensible form of engaging with the discursive material is required. Kendall and Wickham (1999) suggest a practical way of dealing with discourses from a Foucaudian perspective following the steps;

- recognizing a discourse as a corpus of regularly and systematically organized statements and identifying the:
  - rules of production
  - delimiting the sayable
  - rules creating spaces for new statements
  - rules ensuring that to practice is material and discursive at the same time (i.e. that the discourse is always connected to the setting and places where it is produced)

## **5 Preliminary research findings, analysis and discussion**

### **Disciplinary potential – The rules of production**

Ostensibly the deployment of health ICT's is concerned with improving efficiency and the allocation of resources, it can also be associated with the attempted normalization of medical practice through increased surveillance of clinical activity. By making clinicians more calculable through normalizing disciplinary practices such as comparative performance measures, power becomes more anonymous and functional (Foucault 1977). Accounts of professional activities suggested by the NHHRC (2009) are set in terms of timeliness of treatment, prevention, access and efficiency; these terms seem reasonable and acceptable as measures of efficiency and are translated into length of stay, numbers and types of patients treated. To prevent jurisdictional loss, the profession needs to influence the measures of efficiency applied (Abbott, 1988). By suggesting the problem of effective surveillance of work of great complexity and judgment, considerable room to manoeuvre in maintaining the status quo is retained. The relatively simple symbolic displays of efficiency documented within an information system may be considered to under represent the 'complexities and indeterminacies' in how medical work is actually conducted (Covaleski, Dirsmith, Michelman, 1993: 66). Conflict can arise over which logic should regulate the efficiency measures, as expressed in Table 1.

**Table 1:** Clinicians' comment on procedural efficiency initiatives;

Interviewee	Comments
Consultant physician #1	<p>If you come with an administrative model how can you show how clinical outcomes can change? If the measuring tools are not measuring what we want how can we improve care?</p> <p>Government allocates money. Their knowledge of clinical care is virtually nil. Any system they implement will have the factory based financial system model. We've known from the 1980's that when I as a clinician order a blood test, order an x-ray or whatever, I not only generate costs through resource utilization, I generate costs through outcomes of care. Even the successful stuff costs money</p>
Consultant physician #2	<p>Everybody says we want to have a business model to reduce waiting times and cost and whatever. They see it as a factory. But those systems don't have the variation that you need – so if you have five heart patients come in the variation in care is likely to be in five different areas of activity so you have to have a system that meets that variation. You cannot do that with a business model.</p> <p>We know someone in administration determines which coding of DRG's (Diagnostic related groups) will get the most money rather than which ones give the best care outcomes</p>
Director of general medicine, Public Hospital system	<p>Speaking of measuring quality healthcare "it needs to be efficient, effective, and accessible, it needs to be safe, affordable and very importantly it needs to be caring. There is a qualitative aspect of healthcare quality which is totally forgotten about often. There is an ethical and value framework around health"</p>

The focus on economic issues when conceptualizing the role of information, specifically in the form of targets and performance measurement indicators used in the governance of healthcare, highlights the political nature of information. The views expressed indicate a clear understanding of the political role information can play. The doctors demonstrate their belief that the role of shared information in healthcare will be for the purpose of scrutinizing the costs of their practice. The significance of the system appears to influence intention. A misalignment between stakeholders about what constitutes enhanced work performance (cost or quality) is evident, this will impact on the perceived usefulness of the system.

The concerns of the profession reflect their understanding that a picture of healthcare constructed by an IS with an economic focus will determine the legitimate documentation, ensuring aspects that fall outside the accepted categories, expressed by the doctors as the complexity of illness, lose legitimacy and are ignored (Lash, 2002, Bourdieu 1991, Foucault, 1980). The doctors' comments suggest they recognize the dual role IS is capable

of playing, that of providing the ability to control costs and of influencing the delivery of healthcare to facilitate a political exchange.

### **Issues of credibility of efficiency measures - delimiting the sayable**

If the information produced by an information system is deemed inaccurate or inconsistent then this “betrayal” by one of the elements in the network may cause a breach . . . by undermining the credibility of the whole system (Bloomfield, McLean, 1996:372). Questioning the validity of performance metrics and exploiting the political nature of the information used in the generation of performance measures can undermine information systems as candidates for diffusion. Table 2: illustrates the stakeholders doubt in relation to the legitimacy granted to government generated performance reports which undermines government claims to being an efficient manager of healthcare costs. Authority to speak on what constitutes work performance and efficiency becomes contested and a new discursive space is made possible. Information systems become the medium through which claims to legitimacy and control over resource allocation become contested. Authority must, as Foucault (1989) suggests, be problematised, negotiated and constituted.

**Table 2:** Stakeholder conflict over efficient government management

Interviewee	Comment
Director of General Medicine, public hospital system	<p>The granularity of information that comes through (<i>from existing hospital reporting systems</i>), is inadequate to really reflect what can be considerable variation in population needs. Hospitals with a large indigenous population as opposed to a hospital in Vaucluse in Sydney, you may have the same number of patients with pneumonia, but by golly the resources needed are completely different. We need better ways of integrating the socio economic information into these systems.</p> <p>There is an awful lot of political interference which comes down to determining what is funded or not. Rather than looking at the system to determine why people are ending up in emergency departments, heaps of money is thrown into emergency departments to bring down the waiting time.</p>
Consultant Physician #2 public hospital system and member Australian College of Health Informatics	The electronic record . . . , we don’t even know what it should look like because the information we are looking at, and the techniques by which we deliver it, are changing all the time

### **Discursive spaces for action - rules creating spaces for new statements**

Rather than suggesting clear cut resistance to e-health, evidence of new discursive spaces for action are suggested. Health IT provides new opportunities to frame issues and justify or resist practice change, and negotiate compensation structure, as expressed in Table 3.

**Table 3:** Resistance vs opportunities for change underpinned by IS

Interviewee	Comment
Director of General Medicine, public hospital system	We haven't been given ownership (of e-health). In the past electronic systems have been implemented in hospitals with minimal change management. There is no discussion with clinicians prior to implementation.
CEO of a private health information solution provider	Speaking of General Practitioners; "There is a lot of skepticism about improving outcomes. Even if you could improve the outcomes you would have to show, at the minimum that it wouldn't cost them more, and preferably, they would actually benefit financially. If you had really compelling evidence they'd do it.  Initially we tried GP's, but then the issue is, is it quality of care you're looking at or is revenue, they don't like it if you just say we're going to increase revenue. They do want you to say you're going to improve care.
Director of General Medicine, public hospital system	There hasn't been any consistent clinical leadership or opportunity for clinical leadership in Australia in most places. There is starting to be a political understanding that you actually do have to listen to clinicians. But equally, you have to have clinicians trained to look at the big picture, because otherwise you do find that there is self interest.

### **Opportunities for maneuvering in the new discursive spaces - rules ensuring that to practice is material and discursive**

While there is obvious concern about being subject to some politically motivated measure of efficiency, health IT is recognized as providing the opportunity to confront management and government with new 'facts'. In some cases clinicians seize on the opportunity to support and add validity to arguments about the complexity of practice:

**Table 4:** Complexity of professional practice – a change resistance factor

Interviewee	Comments
Consultant physician #1	The current manual system, you can call it paper based or whatever, not only does not work, but it doesn't allow you to improve the care. Even as a measuring system and detection system by which it fails its ability to correct the existing system doesn't work.
Consultant physician #2	The beauty of these systems is we can actually show what we do now and show that it is not actually right.
Director of Chronic Diseases, public hospital system	So often, if you look at emergency departments in the middle of the night, and a significant proportion ( <i>of patients</i> ) are not necessarily cognitively able to handle their own information, how often are medications given in a vacuum?

The desire to regulate professional activity through the use of information gleaned from an e-health platform is indicated by the NHHRC (2009). Defining what constitutes enhanced work performance and improved efficiency under these conditions is an area of tension. Perceived usefulness, which leads to acceptance of technology, is the belief that using technology will lead to enhanced performance. Understanding the meaning of perceived usefulness to the key stakeholders in this political context is necessary for understanding the impact of incentives and constraints. The potential of e-health as a new discursive space for action, allowing the stakeholders to frame issues, has clearly been recognized.

## 6 Conclusion

By using the process of beliefs elicitation the intention to adopt IS was contextualized. Viewing adoption as a social process in which the political context of shareholder relations are important has suggested gaining agreement on what constitutes work performance and efficiency is necessary to encourage acceptance of integrated systems in the Australian healthcare setting. There exists awareness amongst stakeholders that statistics and facts can be used to change understanding of organizational realities. This interpretation about the potential of information systems suggests it as a factor in adoption behavior at least in the healthcare organizations in the Australian setting. It appears to be causing tension which is impacting on the adoption of shared integrated information systems in Australia. The awareness of key stakeholders in healthcare of this potential of IS was exposed using a critical approach to IS research. These findings may resonate with other countries attempting to reform healthcare using ICT's.

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